Dell Management Plug-In for VMware vCenter
Quick Install Guide Version 1.6_December

Notes, Cautions, and Warnings

NOTE: A NOTE indicates important information that helps you make better use of your computer.

CAUTION: A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

WARNING: A WARNING indicates a potential for property damage, personal injury, or death.

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1

Quick Start Installation

Installation Introduction

This guide provides step-by-step instructions for the installation and configuration of the Dell Management Plug-in installation on Dell servers. Once the installation is complete, refer to the *Dell Management Plug-in User's Guide* for information about all aspects of administration including: inventory management, monitoring and alerting, firmware updates, deployments and provisioning, and warranty management.

NOTE: With this release, and with installations on hosts that are on PowerEdge 12th generation servers, OMSA agent installation is not required. For installations on PowerEdge 11th generation servers OMSA agent is now automatically installed during the deployment process. For more information about OMSA, please see the section "Understanding OMSA For 11G Hosts" in the *Dell Management Plug-in User's Guide*. To more clearly understand PowerEdge 12th generation servers and hosts prior to the 12th generation, see the Release Notes for this release.

Prerequisites

The following information is needed prior to the start of Dell Management Plug-in installation.

- TCP/IP address information to assign to the Dell Management Plug-in virtual appliance.
- A user name and password for the Dell Management Plug-in to access the vCenter server. This should be an administrator role that has all needed permissions. For additional information on the available Dell Management Plug-in roles within vCenter, see the Dell Management Plug-in Configuration chapter of the *User's Guide*.
- Root password for ESX/ESXi host systems.
- User name and password associated with iDRAC Express or Enterprise (only for host systems that include an iDRAC).
- Make sure the vCenter server and vSphere client are currently running.
- Know the location of the Dell Management Plug-in OVF file.
- Install the Dell Management Plug-in (virtual appliance) on any ESX/ESXi host managed by a vCenter instance that will be registered with the virtual appliance.
- Your VMware vSphere environment must meet virtual appliance, port access, and listening port requirements. In addition, install Adobe Flash player 10.0 or higher on the vSphere client system.

NOTE: The virtual appliance functions as a regular virtual machine; any interruptions or shut downs impacts overall functionality of the virtual appliance.

Product Hardware Requirements

The Dell Management Plug-in for VMware vCenter provides full support for 11th and 12th generation Dell servers with iDRAC and limited support for 9th and 10th generation Dell servers. To determine what generation of Dell Servers you have, refer to the tables in the Release Notes. See the *Dell Management Plug-in for VMware vCenter Release Notes* for specific hardware support information.

Software Requirements

The vSphere environment must meet virtual appliance, port access, and listening port requirements. In addition, install Adobe Flash player 10.0 or higher on the vSphere client system.

vSphere 5 has both a desktop client and Web client. The Dell Management Plug-in is only available in the desktop client.

NOTE: It is recommended that the Dell Management Plug-in and vCenter server are located on the same network.

For specific software requirements, refer to the *Dell Management Plug-in for VMware vCenter Release Notes*.

Dell Management Plug-in Port Requirements

- 443 (https) and 80 (http) - Administration Console
- 4433 (https) - For auto discovery and handshake
- 162 and 11620 - For SNMP trap listener
- 2049, 4001, 4002, 4003, 4004 - NFS share

Installation and Configuration Overview

The following high-level steps outline the overall installation procedure for the Dell Management Plug-in. These procedures assume that the required hardware is in place and running the required VMware vCenter software. With this release, and with installations on PowerEdge 12th Generation servers, OMSA agent installation is not required. For installations on PowerEdge 11th Generation servers, the OMSA agent is now automatically installed during the deployment process. For more information about OMSA, please see the *Dell Management Plug-in User's Guide*.

The following information is an outline of the installation process. To begin the actual installation, see Deploy Plug-In OVF Using the vSphere Client.

Installation Overview

1. Install the Dell Management Plug-in.
    a. Be sure systems are connected, and vCenter server and vSphere client are running.
    b. Deploy a Open Virtualization Format (OVF) file that contains the Dell Management Plug-in using the vSphere client.
    c. Upload the license file.
    d. Register the Dell Management Plug-in with vCenter server using the Administration Console.
2. Complete Configuration Wizard.
3. Enable Dell events.
    a. Set up event filter options on the Settings page.
4. Enable firmware updates.
    a. Download firmware updates, and make them available to applicable systems.
5. Configure the Dell iDRAC user name and password.

Deploying the Dell Management Plug-in OVF Using the vSphere Client

This procedure assumes you have downloaded the zip file from the Dell Web site.

NOTE: Thick Provision Eager Zeroed is the disk format recommended during this installation.

To deploy the Dell Management Plug-in OVF using the vSphere Client:

1. Unzip the file containing the Dell Management Plug-in virtual disk, and run **setup.exe**.
2. Double-click the Setup.exe file to agree to the EULA, extract the user guides, and obtain the OVF file.
3. Copy/move the OVF file to a location accessible to the VMware vSphere host to which you will upload the appliance.
4. Start the VMware vSphere client.
5. From the VMwarevSphere client, select **File** → **Deploy OVF Template** .

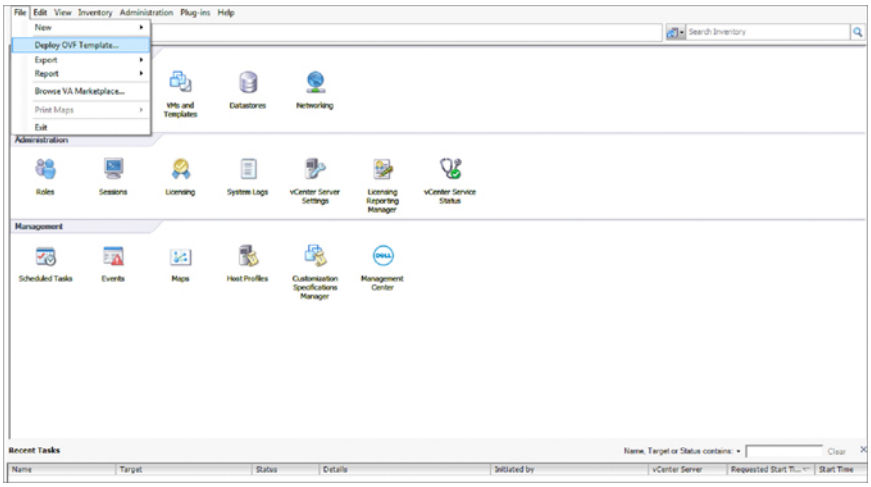

Figure 1. Deploying the OVF Template from vSphere

6. In the **Source** window, use the **Browse** button to locate the OVF package. The location can be a local drive, network drive, CD/DVD, or from the Internet. The Dell Management Plug-in file size is approximately 2.1 GB.

   NOTE: The install can take 10-30 minutes if the OVF package resides on a network share. For the quickest installation, it is recommended that you host the OVF on a local drive.

7. Click **Next.**
8. In the **OVF Template Details** window, review the information presented.
9. Click **Next**.
10. In the **Name and Location** window, do the following:

    a. In the **Name** text box, enter the name of the template. This name can contain up to 80 characters.
    b. In the **Inventory Location** list, select a location to store the template.

11. Click **Next.**
12. Depending on the vCenter configuration, one of the following options displays:

    – If resource pools are configured — On the Resource Pool page, select the pool of virtual servers to which the Dell Management Plug-in will be deployed.
    – If resource pools are *not* configured — On the Hosts/Clusters page, select the host or cluster to which the Dell Management Plug-in will be deployed.

13. If there is more than one datastore available on the host, the Datastore page displays. Select the location to store Dell Management Plug-in files, and click **Next**.
14. In the **Disk Format** window, select the format in which you want to store the virtual disks:

    a. **Thick Provision Lazy Zeroed**

A lazy-zeroed thick disk has all the disk space allocated at the time of creation, but each block is zeroed only on first write. This results in a shorter creation time, but reduced performance the first time a block is written to. Subsequent writes have the same performance as eager-zeroed thick disks.

b. **Thick Provision Eager Zeroed [Recommended]**

An eager-zeroed thick disk has all the space allocated and zeroed out at the time of creation. This increases the time it takes to create the disk, but results in the best performance, even on the first write to each block.

c. **Thin Provision [Not Recommended]**

Space required for a thin-provisioned virtual disk is allocated and zeroed upon first write, as opposed to upon creation. There is a higher I/O cost (similar to that of lazy-zeroed thick disks) during the first write to an unwritten file block, but on subsequent writes thin-provisioned disks have the same performance as eager-zeroed thick disks.

15. Click **Next**.
16. In the **Ready to Complete** window, review the selected options for the OVF deployment task and click **Finish**. The deployment job runs and provides a completion status window where you can track job progress.

Registering Dell Management Plug-in within vCenter And Importing The License File

1. From vSphere Client, select **Home** → **Hosts and Clusters**, then in the left panel, locate the Dell Management Plug-in just deployed, and then click **Power on the virtual machine**.
2. Click on the **Console** tab in the main VMware vCenter window to initiate the console Administration Console.
3. Allow the Dell Management Plug-in to finish booting up and then enter the user name for the administrator (the default is Admin), and set a password.
4. Configure the Dell Management Plug-in network and time zone information.

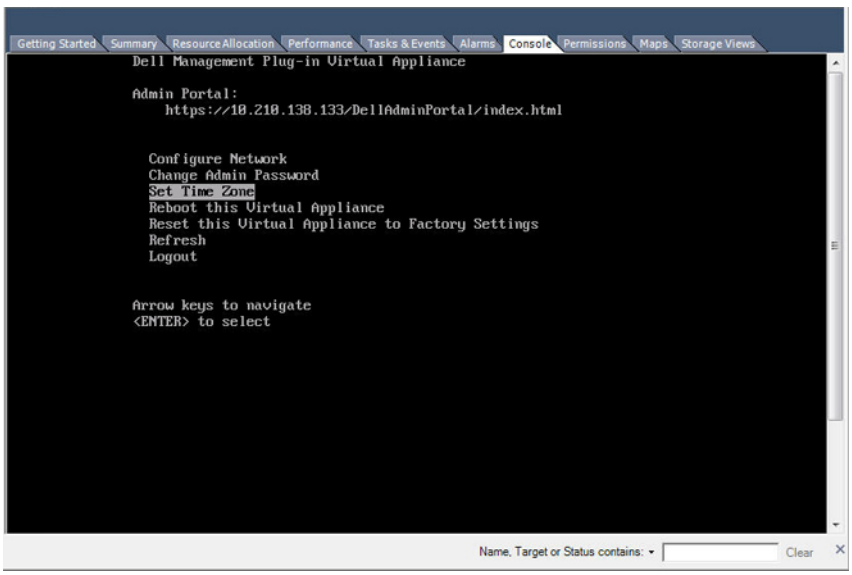

Figure 2. Console tab

5. Open a Web browser and type the appliance's IP address or hostname.

For example: https://10.210.126.120 or https://myesxihost. The URL is not case sensitive.

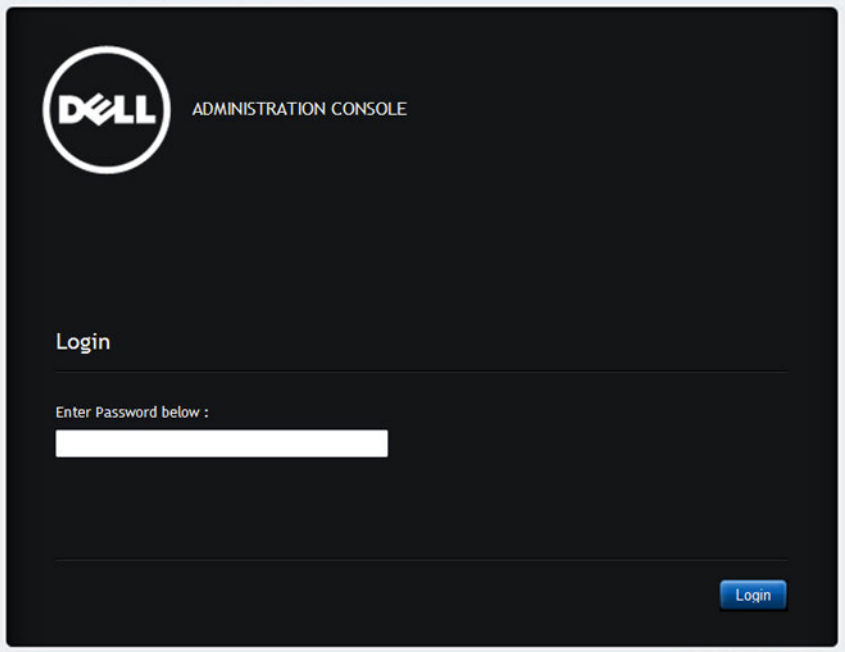

Figure 3. Administration Console

6. In the **Administration Console** login window, enter the password, and then click **Login**.

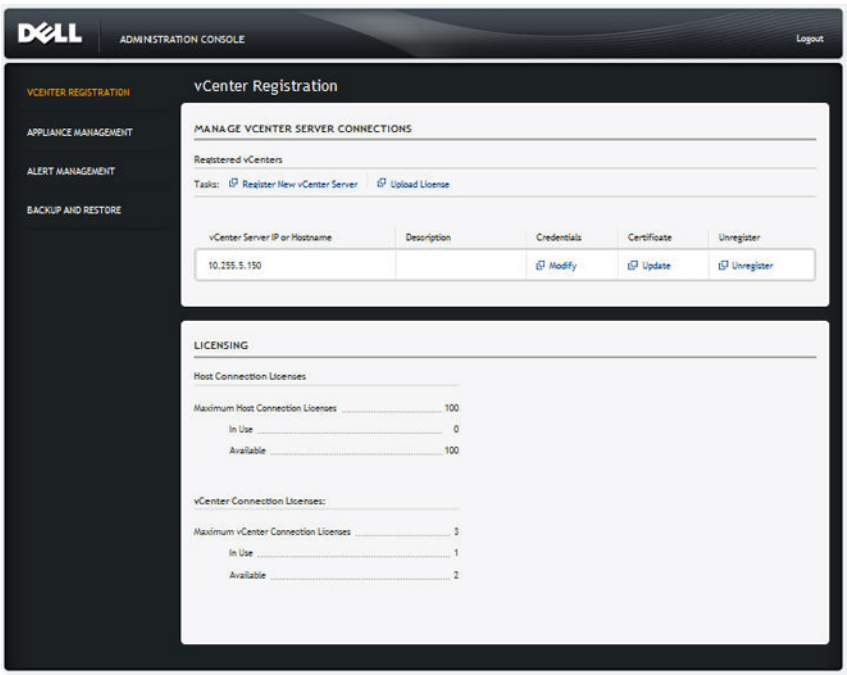

Figure 4. vCenter Registration Window from within the Administration Console

7. In the **vCenter Registration** window, click **Register a new vCenter Server**.
8. On the **Register a New vCenter** window, do the following:

a) Under **vCenter Name**, in the **vCenter Server IP or Hostname** text box, enter the server IP or hostname and then in the **Description** text box, enter the optional description.
b) Under **Admin User Account**, in the **Admin User Name** text box, enter the Admin user name. The Admin user account is used by the Dell Management Plug-in for vCenter administration.
c) In the **Password** text box, enter the password.
d) In the **Verify Password** text box, enter the password again.

9. Click **Register**.
10. If you are using the Dell Management Plug-in trial version, skip to step 12. If you are using the full product version, there is a **license.xml** file included in the product download package. This file contains your product license, and must be imported to your virtual appliance. To import the license file, click **Upload License.**
11. On the **Upload License** window, click the **Browse** button to navigate to the license file. Click **Upload** to import the license file.

NOTE: If the license file is modified or edited in any way, the license file will not work.

12. Once the Dell Management Plug-in is registered, the Dell Management Plug-in icon displays under the **Management** category of the vCenter home page.

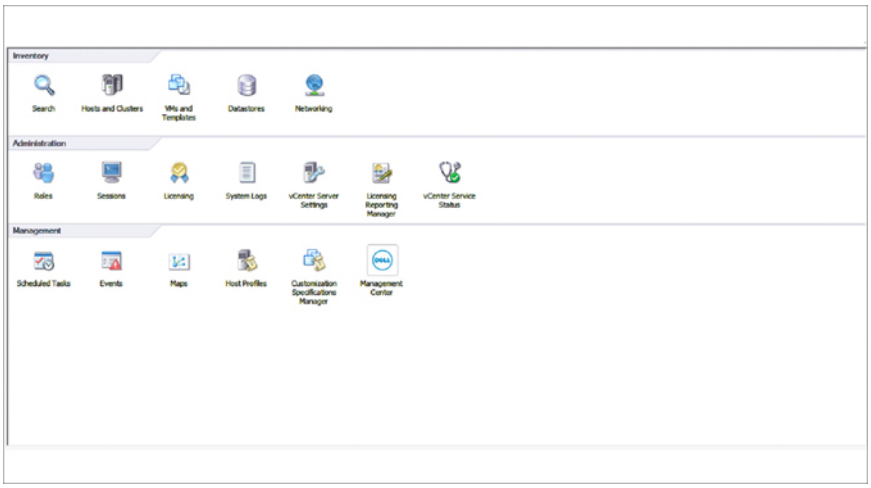

Figure 5. The Dell Managment Plug-in Successfully Added to vCenter

Installation Verification

The following steps verify that the Dell Management Plug-in installation was successful:

1. Confirm that the Dell Management Plug-in icon appears inside of vSphere Client. If it does not, restart the vSphere Client and check again.
2. Check that vCenter can communicate with the Dell Management Plug-in by attempting a ping command from the vCenter server to the virtual appliance IP address or hostname.
3. In **vSphere Client**, click **Plug-ins** → **Managed Plug-ins.** In the **Plug-in Manager** window verify the Dell Management Plug-in is installed and enabled.

2

Understanding How To Configure the Dell Management Plug-in Using the Wizard

After you do the basic installation of the Dell Management Plug-in, it needs to be configured. This is typically done using the Configuration Wizard, but you can also do it using the Settings page options in the Dell Management Center Setting's options.

The user interface in both areas is similar except in the wizard you *Save and Continue*, whereas in the Settings options you click *Apply*.

This section tells you how to configure using the wizard. For information about using the Dell Management Center's Settings options for configuring the Dell Management Plug-in, see *The Dell Management Plug-in User's Guide*.

Configuration Tasks Using the Configuration Wizard

Use these tasks when configuring the Dell Management Plug-in using the Configuration Wizard:

1. Configuration Wizard Welcome Page
2. Creating A New Connection Profile
3. Configuring Events And Alarms
4. Setting Up A Proxy Server
5. Scheduling Inventory Jobs
6. Running A Warranty Retrieval Job
7. Configuring The Deployment Credentials
8. Setting The Default Firmware Update Repository
9. Enabling The OMSA Link

Configuration Wizard Welcome Page

After you install the Dell Management Plug-in, it must be configured.

1. In the **vSphere Client**, under **Management**, click the **Dell Management Center** icon.
2. The first time you click on the **Dell Management Center** icon, it opens the **Configuration Wizard**. You can also access this wizard on the **Dell Management Center** → **Settings** page.
3. In the **Welcome** tab, review the steps you will step through, and then click **Next**.

Creating A New Connection Profile [Wizard]

A connection profile stores the credentials that the virtual appliance uses to communicate with Dell servers. Each Dell server must be associated with a connection profile to be managed by the Dell Management Plug-in. You may assign multiple servers to a single connection profile. Creating the Connection Profile is similar between the Configuration Wizard and from the Dell Management Center, Settings option.

NOTE: With this release, and with installations on hosts that are using 12th generation servers, OMSA agent installation is not required. For installations on 11th generation servers, OMSA agent is now automatically installed during the deployment process.

To create a new connection profile using the wizard:

1. From the **Connection Profiles** tab, click **Create New**.
2. In the **Profile Name and Description** panel, enter the **Profile Name** and an optional **Description** that are used to help manage custom connection profiles, and then click **Next**.
3. In the **Associated Hosts** panel, select the hosts for the connection profile and click **Next**.
4. View the information about credentials and connection protocols and click **Next**.
5. In the iDRAC panel, enter the **iDRAC credential information**.
   a) Enter the **User Name**, **Password**, and **Verify Password**. The user name can contain up to 16 characters including white space. The following characters are not supported: / (forward slash), \\ (backslash), @ (at), \" (quotation mark), and white space without any characters. The passwords must match and use ASCII-printable characters only.

      NOTE: Passwords can contain up to 20 printable ASCII characters. The domain name can contain alphanumeric characters, - (dash), and . (period) only.

   b) For **Certificate Check**, select **Enable** to download and store the iDRAC certificate and validate it during all future connections, or select **Disable** to perform no check and not store the certificate.

      You need to select Enable if you are using Active Directory.
6. Click **Next**.
7. In the **Host Root Credentials** panel, do the following:
   a) Enter the **User Name**, **Password**, and **Verify Password**. The passwords must match.

      NOTE: Passwords cannot exceed 31 characters and cannot contain any special characters.

      NOTE: For servers that do not have either an iDRAC Express or Enterprise card, the iDRAC test connection result states *Not Applicable for this system*.

      NOTE: The OMSA credentials are the same credentials used for ESX and ESXi hosts.

   b) For **Certificate Check**, select **Enable** to download and store the OMSA certificate and validate it during all future connections, or select **Disable** to perform no check and not store the certificate. Select Enable if you use Active Directory.
8. Click **Next**.
9. The **Test Connection** window tests the entered iDRAC and Host Root Credentials on the selected servers. Do one of the following:
   - To begin the test, click **Test Selected** The other options are inactive.
   - To stop the tests click **Abort All Tests**.
10. To complete the profile, click **Save**.
11. To continue on to configure Events and Alarms, click **Save and Continue**.

Configuring Events And Alarms [Wizard]

Configure events and alarms using the Configuration Wizard or from the Dell Management Center, Settings option for Events and Alarms.

NOTE: On hosts prior to 12G, this feature requires that the virtual appliance is configured as a trap destination in OMSA to display host events in vCenter.

To configure events and alarms:

1. In the **Configuration Wizard**, under **Event Posting Levels**, select one of the following:
   - Do not post any events - Block hardware events.

- Post All Events - Post all hardware events.
- Post only Critical and Warning Events - Post only critical or warning level hardware events.
- Post only Virtualization-Related Critical and Warning Events - Post only virtualization-related critical and warning events; this is the default event posting level.

2. To enable all hardware alarms and events, select the **Enable Alarms for Dell Hosts** check box.

   NOTE: Dell hosts that have alarms enabled respond to critical events by entering maintenance mode.

3. In the dialog box that displays, click **Continue** to accept this change, or click **Cancel**.

   NOTE: This step is only seen if **Enable Alarms For Dell Hosts** is selected.

4. To restore the default vCenter alarm settings for all managed Dell servers, click **Restore Default Alarms**.

   It may take up to a minute before the change takes effect.

5. To continue the wizard, click **Save and Continue**.

Setting Up A Proxy Server [Wizard]

Set the proxy server in the Configuration Wizard or later using the Dell Management Center **Settings** → **Proxy** page.

To set up a proxy server:

1. In the **Configure HTTP Proxy window**, do one of the following:
   - To not use a proxy server, click **Save and Continue**.
   - To use a proxy server, under **Settings** enter a **Proxy Server Address**.
2. Enter the **Proxy Port number**.
3. Select the **Credentials Required** check box, if needed.
4. If you selected **Credentials Required**, do the following:
   a) In the **Proxy User Name** text box, type the proxy user name.
   b) In the **Proxy Password** text box, type the proxy password.
   c) In the **Proxy Verify Password** text box, re-type the proxy password.
5. Under **Proxy**, select the **Use Proxy** check box.
6. To save these options and continue, click **Save and Continue**.

Scheduling Inventory Jobs [Wizard]

The inventory schedule configuration is similar between the Configuration Wizard and from the Dell Management Center, Settings option. The only difference is that the wizard supplies an option to select if you want to run the inventory immediately.

NOTE: To make sure that the Dell Management Plug-in continues to display updated information, it is recommended that you schedule a periodic inventory job. The inventory job consumes minimal resources and will not degrade host performance.

To schedule an inventory job:

1. In the **Configuration Wizard**, in the **Inventory Schedule** window, do one of the following:
   - To run inventory schedules, click **On Selected Days**.
   - To not run inventory schedules, select **Do not run inventory on Dell hosts**.
2. If you selected **On Selected Days**, then do the following:
   a) Select the check box next to each day of the week that you want to run the inventory.
   b) In the text box, enter the time in HH:MM format.

The time you enter is your local time. Calculate the time difference you need to run the inventory collection at the proper time.

c) To automatically run the inventory task once the wizard is complete, select the **Run inventory at the end of the wizard [Recommended]** check box.

This check box only appears when the On Selected Days check box is selected.

3. To apply the changes and continue, click **Save and Continue**.

Running A Warranty Retrieval Job [Wizard]

The warranty retrieval job configuration is similar between the wizard and from the Dell Management Center, Settings option. The only difference is that the wizard supplies an option to run the warranty retrieval job immediately. In addition, you can run the Warranty Retrieval Job now, from Job Queue.

To run a warranty retrieval job:

1. In the **Configuration Wizard**, on the **Warranty Schedule** window, do one of the following:
   - To run warranty schedules, click **On Selected Days**.
   - To not run warranty schedules, select **Do not retrieve Warranty Data**.
2. If you selected **On Selected Days**, then do the following:
   a) Select the text box next to each day of the week that you want to run the warranty jobs.
   b) In the text box, enter the time in HH:MM format.

   The time you enter is your local time. Calculate the time difference you need to run the warranty jobs at the proper time.
3. To apply the changes and continue, click **Save and Continue**.

Configuring the Deployment Credentials [Wizard]

Deployment credentials are used to securely communicate with a bare-metal system, using the iDRAC from initial discovery until the end of the deployment process. Once deployment completes, the credentials are changed to those in the connection profile matched to the bare-metal system from the Deployment wizard. If the deployment credentials are changed, all newly discovered systems from that point on are provisioned with the new credentials; however, the credentials on servers discovered prior to the change are not affected.

To configure the deployment credentials:

1. In the **Deployment Credential** window you can view or change the credentials. The bare— metal server switches from these credentials to those specified in the Connection Profile.
2. To change these credentials, under **Credentials for Bare Metal Server Deployment**, do the following:
   a) In the **User name** text box, edit the user name.
   b) In the **Password** text box, edit the password.
   c) In the **Verify Password**, text box, confirm the password.
3. To save the specified credentials and continue with the Configuration Wizard, click **Save and Continue**.

Setting The Default Firmware Update Repository [Wizard]

Firmware repository settings contain the firmware catalog location used to update deployed servers. You can set up firmware initially here in the wizard or later from the Dell Management Center Settings option. In addition, you can run the firmware update later from the Dell Server Management tab.

To set the default firmware update repository:

1. In the **Configuration Wizard**, on the **Firmware Repository** page, to choose the default repository for firmware updates, select one of the following:

   – Dell Online

   Default firmware repository (ftp.dell.com) with a staging folder. The Dell Management Plug-in downloads selected firmware updates and stores them in the staging folder, and then they are applied as necessary.

   – Local/shared repository

   These are created with the Dell Repository Manager application. These local repositories should be located on Windows-based file shares.

2. If you selected **Local/shared repository**, do the following:
   a) Enter the **Catalog File Location** using the following format:

      * NFS share for xml file: host:/share/filename.xml
      * NFS share for gz file: host/share/filename.gz
      * CIFS share for xml file: \\host\share\filename.xml
      * CIFS share for gz file: \\host\share\filename.gz

   b) If using a CIFS share, enter the **User Name**, **Password**, and **Verify Password**; the passwords must match. These fields are only active when entering a CIFS share.

      NOTE: The @ character is not supported for use in shared network folder user names/passwords.

   c) To validate your entries click **Begin Test**.
3. To save this selection and continue the **Configuration Wizard**, click **Save and Continue**.

Enabling The OMSA Link [Wizard]

To launch OMSA within the Dell Management Plug-in virtual appliance, the OMSA Web Server must be installed and configured. See the *Dell OpenManage Server Administrator Installation Guide* for instructions on how to install and configure the Web Server.

NOTE: OMSA is only required on Dell servers prior to version 12G.

You can use OMSA to:

- Manage vCenter elements (detailed sensor/component-level health information).
- Clear command logs and system event logs (SELs).
- Obtain NIC statistics.
- Make sure that the Dell Management Plug-in captures events from a selected host.

1. In the **Configuration Wizard**, on the **OpenManage Server Admin** page, use the **OMSA Web Server URL** text box to enter the OMSA URL. You must include the full URL including the HTTPS.
2. To save this URL and finish the Configuration Wizard, click **Finish**.

Configuring Dell iDRAC Auto-Discovery And Initial Start-up

NOTE: For Auto-Discovery and handshake to run, disable all users with admin-level access. Additionally, if the deployment credentials in the appliance match those of an existing user, then the password of the existing user changes to match the appliance credentials.

To configure Dell iDRAC Auto-Discovery and initial start up:

1. Log in to the iDRAC user interface.
2. In the left tree menu, click **Remote Access**.

3. In the main pane - upper tabs, click **Network/Security**.
4. Click the **Users** sub tab, and select the user to edit by selecting the user ID link.
5. Make sure that the **Configure User** option button is selected, and continue to the next page.
6. To configure the user, do one of the following:
   - To disable a user, uncheck the **Enable User** check box and then click **Apply**.
   - To enable a user, check the **Enable User** check box and then click **Apply**.
7. Manually close the iDRAC user interface, then reboot the system and log back in.
8. After the system reboots, when the iDRAC IP address is displayed, press **<CTRL+E>**.
9. Go to **LAN USER CONFIGURATION** and set the **Auto Discovery Flag to Enable**.
   Make sure the iDRAC administrator accounts are disabled. Alternatively, to set up the network for Auto-Discovery and handshake, refer to the Dell Auto-Discovery Network Setup Specification located at: **http://www.delltechcenter.com/page/Lifecycle+Controller**.
10. In the **Provisioning server** field, enter the virtual appliance IP address, and then press **Enter**.
11. To initiate discovery and initial start up, click **Save**.

Configuring OMSA Agents To Send Traps

The Install and Configure OMSA agent on the ESX Web site contains detailed instructions, as well as sample scripts, to the OMSA agent to send traps to the Dell Management Plug-in virtual appliance. It is located at the following URL:

http://www.delltechcenter.com/page/Install+and+Configure+OMSA+on+ESX

Configuring NFS Shares

To use NFS shares with the Dell Management Plug-in for backup and restore operations, firmware updates, and as a staging folder, there are certain configuration items that you must complete. CIFS shares do not require additional configuration.

To configure NFS shares:

1. On the machine hosting the NFS shares, edit **/etc/exports** to add: **/share/path <appliance IP> (rw) *(ro)**.
   This allows the virtual appliance full read and write access to the share, but limits all other users to read only.
2. Start nfs services:
   ```
   service portmap start
   service nfs start
   service nfslock status
   ```
   NOTE: The steps above may vary depending on the Linux distribution in use.
3. If any of the services were already running:
   ```
   exportfs -ra
   ```

For More Configuration Information

For a complete guide on Dell Management Plug-in configuration, management, and deployment options, see the *Dell Management Plug-in for VMware vCenter User's Guide*.